Mathematics Opportunities

Call for Proposals for AMS Short Courses

The AMS Short Course Subcommittee invites submissions of preliminary proposals for short courses to be given at the 2013 or 2014 Joint Mathematics Meetings. Members are also invited to submit names of colleagues whom they think would conduct inspiring short courses. A short course consists of a coherent sequence of survey lectures and discussions on a single theme of applied mathematics. A short course ordinarily extends over a period of two days immediately preceding the Joint Mathematics Meetings held in January. Preliminary proposals may be as short as one page. After reviewing the preliminary proposals, the subcommittee may ask for more details from some of the proposers. Proposals should be sent via email to Ellen Maycock at ejm@ams.org. For full consideration for the 2013 Short Courses, proposals should be submitted by **December 21, 2011.**

—AMS announcement

NSF Computing Equipment and Instrumentation Programs

The Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) plans a limited number of awards for the support of computing environments for research in the mathematical sciences. SCREMS (Scientific Computing Research Environments for the Mathematical Sciences) supports computing environments dedicated to research in the mathematical sciences. Proposals may request support for the purchase of computing equipment and limited support for professional systems administrators or programmer personnel for research computing needs. These grants are intended to support research projects of high quality that require access to advanced computing resources. Requests for routine upgrades of standard desk-environment workstations or laptop computers are not appropriate for this program. Awards are made to provide support for specific research projects rather than to provide general computing capacity. Proposers are encouraged to include projects involving symbolic and algebraic computations, numerical computations and simulations, and graphical representations (visualization) in aid of the research.

For more information see the website http://www.nsf.gov/pubs/2007/nsf07502/nsf07502.htm or http://tinyurl.com/3e7owrg. The deadline for proposals is **January 26, 2012.**

—From an NSF announcement

NSF Program in Computational and Data-Enabled Science and Engineering in Mathematical and Statistical Sciences

Computational and data-enabled science and engineering (CDS&E) is emerging as a distinct intellectual and technological discipline lying at the interface of mathematics, statistics, computational science, core sciences, and engineering disciplines. CDS&E, broadly interpreted, now affects virtually every area of science and technology, revolutionizing the ways science and engineering are done. The CDS&E program in the Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF), in partnership with the Office of Cyberinfrastructure, supports fundamental research at the core of this emerging discipline. It supports broadly innovative, ambitious, and transformative research that will lead to significant advancement in CDS&E. The emphasis will be on mathematical, statistical, computational, and algorithmic developments, as well as their applications in advancing modern cyberinfrastructure and scientific discovery. Multidisciplinary collaboration and the training of the next generation of data and computational scientists firmly grounded and trained in mathematics and statistics will be strongly encouraged. The research topics supported by CDS&E in mathematical and statistical sciences will be rooted in mathematics and statistics and will address computational and big data challenges and directly promote discoveries and innovations at the frontiers of science and engineering. The overall impact in the mathematical and statistical sciences of the proposed work will be a review criterion.

The window for submission of proposals is **January 9–January 23, 2012.** For more details see http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504687&WT.mc_id=USNSF_25&WT.mc_ev=click.

—From an NSF announcement

NDSEG Fellowships

As a means of increasing the number of U.S. citizens trained in disciplines of military importance in science and engineering, the Department of Defense (DoD) awards National Defense Science and Engineering Graduate (NDSEG) Fellowships each year to individuals who have demonstrated ability and special aptitude for advanced training in science and engineering. The fellowships are awarded for a period of three years for study and research leading to doctoral degrees in any of fifteen scientific disciplines. The NDSEG Fellowship Program is open only to applicants who are citizens or nationals of the United States. NDSEG Fellowships are intended for students at or near the beginning of their graduate studies in science or engineering. Applicants must have received or be on track to receive their bachelor's degree by fall of 2012. Fellows selected in spring 2012 must begin their fellowship tenure in fall 2012. Fellowships are tenable only at U.S. institutions of higher education offering doctoral degrees in the scientific and engineering disciplines specified. Fellows will receive full tuition and stipends for 12-month tenures: US$30,500 for the first year, US$31,000 for the second year, and US$31,500 for the third year. Applications are encouraged from women, persons with disabilities, and minorities, including members of ethnic minority groups such as African American, American Indian and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, Hispanic, or Latino. Complete applications must be submitted electronically by **December 16, 2011.** Application forms are available online at `http://ndseg.asee.org/apply_online`. For further information, see `http://ndseg.asee.org/`.

—From an NDSEG announcement

National Academies Christine Mirzayan Graduate Fellowship Program

The Christine Mirzayan Science and Technology Policy Graduate Fellowship Program of the National Academies is designed to engage graduate science, engineering, medical, veterinary, business, and law students in the analysis and creation of science and technology policy and to familiarize them with the interactions of science, technology, and government. As a result, students develop essential skills different from those attained in academia and make the transition from graduate student to professional. Applications for the fellowships are invited from scholars from graduate through postdoctoral levels in any physical, biological, or social science field or any field of engineering, medicine and health, or veterinary medicine, as well as business, law, education, and other graduate and professional programs. Postdoctoral scholars should have received their Ph.D. within the past five years. The winter/spring session will run January 23–April 13, 2012, and the fall session will run August 27–November 16, 2012. There will be no summer session in 2012. The stipend for the 12-week session is US$8,240. The deadline for receipt of materials for the fall program is **May 1, 2012.** More information and application forms and instructions can be found on the website `http://sites.nationalacademies.org/PGA/policyfellows/index.htm` or by contacting The National Academies Christine Mirzayan Science and Technology Policy Graduate Fellowship Program, 500 Fifth Street, NW, Room 508, Washington, DC 20001; telephone: 202-334-2455; fax: 202-334-1667; email: `policyfellows@nas.edu`.

—From a National Academies announcement

Fields Institute Postdoctoral Fellowships

The Fields Institute in Toronto, Canada, invites applications for postdoctoral fellowship positions for the 2012–2013 academic year. The Thematic Program on Forcing and Its Applications will take place at the institute from July to December 2012. The fellowships provide for a period of engagement in research and participation in the activities of the institute. In addition to regular postdoctoral support, one visitor for each six-month program will be awarded the Jerrold E. Marsden Postdoctoral Fellowship. There will also be a number of two-year positions available connected to the Fields-Ontario fellowship. Applicants seeking postdoctoral fellowships funded by other agencies (such as NSERC or international fellowships) are encouraged to request the Fields Institute as their proposed location of tenure and should apply to the institute for a letter of invitation. Applications are invited from qualified candidates who will have recently completed a Ph.D. in a related area of the mathematical sciences. The deadline for applications is **December 15, 2011.** For more information see `http://www.fields.utoronto.ca/honours/postdoc.html`.

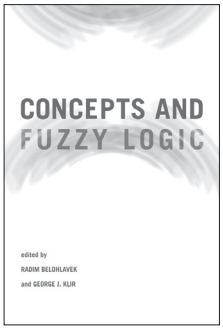
—From a Fields Institute announcement

News from the Mathematical Biosciences Institute

The Mathematical Biosciences Institute (MBI) is accepting applications for two kinds of awards, described below.

MBI Postdoctoral Fellows, to start September 2012, are immersed in the topics of the MBI emphasis year programs (see `http://mbi.osu.edu`). Postdoctoral Fellows engage in a three-year integrated program of tutorials, working seminars or journal clubs, and workshops, and in interactions with their mathematical and bioscience mentors. These activities are geared toward providing the tools to pursue an independent research program with an emphasis on collaborative research in the mathematical biosciences. MBI facilitated activities for Postdoctoral Fellows are tailored to the needs of each early career scientist.

The MIT Press



Concepts and Fuzzy Logic
edited by Radim Belohlavek and George J. Klir
"The editors have assembled a diverse and stellar collection of authors to help them in bridging the interdisciplinary gap between the pyschology of concepts and theorizing in fuzzy logic. This is an important undertaking and one that is long overdue, given the as yet largely untapped potential synergy at the interface of these fields."
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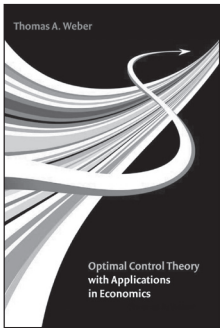

Optimal Control Theory with Applications in Economics
Thomas A. Weber
foreword by
A. V. Kryazhimskiy
"Weber's book is an important reference for anyone wishing to explore dynamic economic systems. Its early chapters present a nice overview of the field, and for researchers already familiar with control theory there are several chapters dealing with applications to game theory and mechanism design, including interesting examples that are nicely developed."
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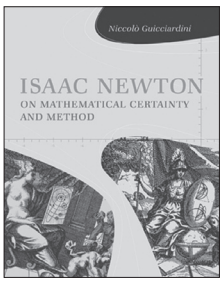

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Mathematics Opportunities

Applications for an MBI Postdoctoral Fellowship are to be submitted online at `http://www.mathjobs.org/jobs/mbi`. Applicants need to provide a curriculum vita, a research statement, and three letters of recommendation. Applications completed before **December 16, 2011**, will receive full consideration.

MBI Early Career Awards, to be held during the 2012-13 Year on Mathematical Neuroscience, enable recipients to be in residence at the Mathematical Biosciences Institute for stays of at least three months during the Emphasis Year Program. The 2012-13 program is on Mathematical Neuroscience (see `http://mbi.osu.edu/2012/scientific2012.html`). Awardees will engage in workshops tied to the scientific theme and are expected to interact with local and visiting researchers.

Early Career Awards are aimed at nontenured scientists who currently have continuing employment and who hold a doctorate in any of the mathematical, statistical, and computational sciences, or in any of the biological, medical, and related sciences.

An Early Career Award will be for a maximum of US$7,000 per month of residency and for a maximum of nine months during the academic year; the award may be used for salary and benefits, teaching buyouts, and/or local expenses.

Applications completed before December 16, 2011, will receive full consideration. The applicant should state the period that he or she would plan to be in residence. Applications are to be submitted online at `http://www.mathjobs.org/jobs/mbi`. Applicants need to provide a curriculum vita, a research statement, and three letters of recommendation. One of these letters should be from the department chair of the applicant's home institution; the chair's letter should approve of the proposed financial arrangements for the candidate's stay at MBI.

For additional information about these two award opportunities, please contact Rebecca Martin (`rebecca@mbi.osu.edu` or 614-688-3519).

—MBI announcement